



Multitubular reactor scale-up and design

- Design of multitubular fixed-bed catalytic reactors
- Scale-up from bench to pilot and commercial
- Gas or liquid phase
- Tube-side design (number, dimensions)
- Shell-side design (baffle configuration, tube pitch, coolant flow)
- Catalyst layer optimization
- Impact of catalyst shape, size, internal structure
- Hot spot management
- Kinetics identification, catalyst deactivation
- Advice on design of experimental programs





e: reactors@psenterprise.com
 w: psenterprise.com/multitubular
 t: (973) 290 9559

www.aiche.org/cep or Circle No. 150 on p.63


www.DynatrolUSA.com

Dynatrol®

Toll free 800.231.2062 Phone 713.869.0301 Fax 713.869.7332

Designed to monitor high, intermediate or low point-level detection on dry bulk solids as well as liquids or slurries, the **Dynatrol®** Level Detectors are available in corrosion-resistant coatings. The compact, rugged detectors are built in the USA and are solidly constructed for a long operating life. They have no moving parts, require no adjustments and are virtually wear-free – delivering a worry-free solution for your demanding service conditions.

Request your copy of the latest Dynatrol® catalog - on CD!



Covers the complete **Dynatrol®** line of level switches & detectors, on-stream process analyzers, measurement & control instruments and a new line of accessories. Includes detailed drawings, wiring diagrams, and examples of proven uses.

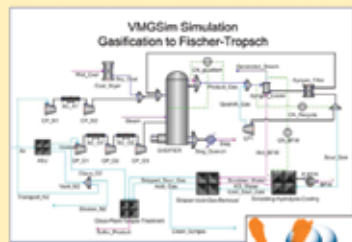
Automation Products Inc
 3030 Maxroy St
 Houston TX 77008
 800 231-2062
sales@dynatrolusa.com
www.DynatrolUSA.com

www.aiche.org/cep or Circle No. 151 on p.63

Loved by Engineers

VMGSim Process Simulation

- Gasification • Fischer-Tropsch
- Reforming • Carbon Dioxide Removal • Sulfur Recovery




APPROVED By CFOs

Virtual Materials Group, Inc.
 USA 281-346-1200
 Canada 403-210-8125
www.virtualmaterials.com


www.aiche.org/cep or Circle No. 152 on p.63

THINK GREEN—THINK PULSAIR



Pulsair Chemical and Wastewater Mixing Systems efficiently mix aeration tanks, anoxic basins, sludge tanks, and chemical tanks using up to **75% Less Energy** than conventional mechanical mixers...and there are no immersed impellers, shafts, gears, seals or any other moving parts in the tank.

PULSAIR
The Fastest, Most Efficient Low Shear Mixing System Available Today!



For information on the Pulsair Automated Mixing System best for your application, Call **800-582-7797** Email sales@pulsair.com

www.aiche.org/cep or Circle No. 153 on p.63


Design Flow Solutions®

DF Branch | DF DesigNet

Design Flow Solutions is the most comprehensive, cost effective engineering aid available for complete hydraulic analysis of complex piping systems.


This powerful software package provides engineers with:

- Complete hydraulic analysis of complex piping,
- Effective solutions to fluid flow problems,
- Fast, reliable reference information.



See our website for more information and to download a free evaluation copy:
www.abzinc.com/cep

ABZ, Incorporated
 4451 Brookfield Corp. Dr., Suite 107
 Chantilly, VA 20151
 Phone: (800) 747-7401
 Fax: (703) 631-5282
 Email: sales@abzinc.com



www.aiche.org/cep or Circle No. 154 on p.63

Free Tutorial CD Featuring Fluid Flow, Heat and Mass Transfer, and Reaction Kinetics



COMSOL® is now offering a free copy of the 2011 Edition of the Conference CD! This CD is a well rounded compilation of works from the worldwide multiphysics simulation community. It contains over 500 presentations from our recent conferences in Boston, Paris and Bangalore. Applications featured include microfluidics, electrochemistry, transport phenomena, reaction engineering, and many more.

Request your complimentary copy of the CD at www.comsol.com/cep-showcase Tel: 781-273-3322



www.aiche.org/cep or Circle No. 155 on p.63